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ABSTRACT

To improve vocational educational programs in agriculture, occupational information on a common core of basic skills within the occupational area of the swine farmer is presented in the revised task inventory survey. The purpose of the occupational survey was to identify a common core of basic skills which are performed and are essential for success in the occupation. Objectives were accomplished by constructing an initial task inventory to identify duty areas and task statements for the occupation. The initial task inventory was reviewed by consultants in the field, and 287 tasks were identified. A random sample of 75 swine farmers based on the 1974-75 directory of the Ohio Young Farmers Association, Inc. was obtained. Data were collected utilizing a questionnaire. Thirty-five questionnaires were returned of which 32 were usable. A compilation of basic sample background information is presented on the size and type of swine operation, years as a swine farmer, and preparation as a swine farmer. A compilation of duty areas of work performed and work essential for the occupation is given. Percentage performance by incumbent workers and the average level of importance of specific task statements are presented in tabular form. (Author/EC)

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DETERMINATION OF A COMMON CORE OF BASIC SKILLS IN AGRIBUSINESS AND NATURAL RESOURCES

An Emperical Determination Of Tasks Essential To Successful Performance As A Swine Farmer

DEPARTMENT OF AGRICULTURAL EDUCATION
THE OHIO STATE UNIVERSITY
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AN EMPERICAL DETERMINATION OF TASKS ESSENTIAL TO SUCCESSFUL PERFORMANCE AS A SWINE FARMER

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FOREWORD

The Department of Agricultural Education at The Ohio State University is involved in a major programmatic effort to improve the curricula in education programs in agriculture. One product in this effort is this report of the swine farmer task inventory survey. The data reported were collected as part of a more comprehensive thrust designed to develop a common core of basic skills in agribusiness and natural resources.

It is hoped that the revised task inventory contained in this report will be useful to curriculum developers working for improved occupational relevance in schools. Twenty-seven additional inventories in other occupational areas are also reported from this project.

The profession owes its thanks to J. Rick Byrd, graduate research associate, for his work in preparing this report. Special appreciation is also expressed to Richard Hummel, Executive Vice-President and Treasurer of the Ohio Young Farmers Association, Inc. and Area Supervisor for Vocational Education in Agriculture in Ohio, for his input and help in securing the cooperation of swine farmers throughout Ohio.

J. David McCracken
Project Director

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INTRODUCTION

Occupational information is needed to develop and revise vocational and technical education curricula. Teachers and curriculum developers generally determine which skills might be taught in a program based upon teacher expertise, advisory committee input, informal and formal community surveys, and/or task inventories.

The Agricultural Education Department at The Ohio State University has utilized and revised a system for obtaining and using occupational information as an effective aid in planning, improving, and updating occupational education curricula. This report presents the results of a task analysis survey of the occupation, swine farmer. The information contained herein may be used by curriculum development specialists, teachers, local and state administrators, and others involved in planning and conducting vocational and technical programs in agriculture.

Purpose and Objectives

The major purpose of the occupational survey was to identify the skills which are performed and essential for success as a swine farmer. The specific objectives of this survey were as follows:

1. Develop and validate an initial task inventory for the swine farmer.
2. Identify the specific tasks performed by the swine farmer.
3. Determine the relative importance of the specific tasks to successful employment as a swine farmer.

Definition of the Occupational Area

The swine farmer usually receives a major portion of his farm income from the swine enterprise. The swine farmer may maintain both a breeding herd and feeders. The specific duties he performs in relation to the swine enterprise usually involve maintaining the herd health, formulating feeds and feeding the herd, selecting animals, managing the herd breeding program, and marketing hogs.

Because most swine farmers operate farms where crops are raised, the operational management responsibilities of the swine farmer include more than managing the swine herd. The swine farmer is usually responsible for the planting, cultivating, harvesting, storing, and marketing of crops. The swine farmer also has a large investment in equipment and buildings and must manage that portion of the swine farm business. The swine farmer must operate equipment and machinery and maintain and repair such equipment. The swine farmer also will be involved in minor building construction and maintenance of the farm buildings and structures.

METHODOLOGY

Objectives were accomplished by constructing an initial task inventory, validating the initial inventory, selecting a sample of workers, collecting data, and analyzing data.

Initial Task Inventory

Duty areas and task statements for the swine farmer were identified by searching existing task lists, job descriptions,

curriculum guides, and reference publications. Additionally, contacts with several swine specialists at The Ohio State University aided in clarifying the specific responsibilities of the swine farmer. All the tasks that the project staff thought to be performed were assembled into one composite list.

The initial tasks were grouped into functional areas called "Duties".

After the task statements were grouped under the proper duty areas, each task statement was reviewed for brevity, clarity, and consistency. In all, 377 task statements were included in the initial task inventory.

Initial Inventory Validation

After the initial task inventory was constructed, it was reviewed by ten swine farmers.

The consultants were asked to respond to the initial task list inventory by performing the following activities:

1. Indicate whether any of the tasks listed were not appropriate.

2. Add any additional tasks they believed were performed by the swine farmer.

3. Make changes in the wording of tasks to help add clarity to the statements.

The comments from the ten swine farmers were pooled and needed revisions were made. Two of the duty areas were combined and one duty area was eliminated. The duty areas relating to the overall management of the swine farm which were not unique to the swine enterprise but common to several production agriculture occupations were removed from the swine farmer questionnaire and incorporated into a separate farm manager (owner-operator) questionnaire.

As a result of the initial task inventory review process, 287 tasks were identified.

Worker Sample Selection

An attempt was made to survey swine farmers from all areas of the state with various size swine operations. A sample of 75 swine farmers was obtained from the 1974-75 directory of the

Ohio Young Farmers Association, Inc. using a multi-stage random sampling approach. The stages used in the sampling approach were local Ohio Young Farmer Association, Inc. chapter and individual member.

Data Collection

A packet of materials was sent to the randomly-selected swine farmers. The packet of materials included:

1. A cover letter from Ohio Young Farmers Association, Inc.
2. A questionnaire printed on yellow.
3. A stamped and self-addressed return envelope.

The swine farmer was instructed to complete the questionnaire and return it in the stamped and self-addressed return envelope by the date specified in the cover letter.

A follow-up of non-respondents consisted of mailing a packet of materials two weeks after the initial mailing. The follow-up consisted of a packet of materials identical to the initial packet except that a cover letter on Ohio State University stationery replaced the cover letter on Ohio Young Farmer Association, Inc. stationery.

Data Analysis

The 35 questionnaires which were returned were checked for completeness and accuracy by the project staff. Information from the 32 usable responses was coded on Fortran coding sheets for key punching. In addition to coding appropriate respondent background information, each specific task statement was coded as to whether it was performed (1 = Task performed by respondent; blank = Task not performed by respondent) and the level of importance of the task (3 = Essential; 2 = Useful; 1 = Not Important). The information was keypunched on IBM cards and verified by personnel at the Instruction and Research Computer Center at The Ohio State University.

The data was analyzed using the SOUPAC computer program and the facilities of the Instruction and Research Computer Center. Consultant assistance for analyzing the data was provided by personnel at The Center for Vocational Education. The SOUPAC computer analysis resulted in the computation of relative frequencies,

means, and rankings for each task statement. The results of the computer analyses were printed in tabular form for ease of interpretation.

FINDINGS

Objectives of the study resulted in the compilation of basic sample background information, the determination of tasks performed by the swine farmer, and the identification of tasks essential to successful performance as a swine farmer.

Description of the Sample

Information regarding the performance of tasks and the importance of the tasks to successful employment as a swine farmer was obtained from swine farmers across Ohio.

Response to the Survey

A total of 75 questionnaires were mailed and 35 replies were received. This represented a 46.7% rate of return. The response to the questionnaire is summarized in TABLE I.

TABLE I

SWINE FARMER RESPONSE TO THE QUESTIONNAIRE

	N	Percent Of Swine Farmers In The Survey
Swine Farmers in Survey	75	100.0
Total Returns	35	46.7
Usable Returns	32	42.7
Unusable Returns	3	4.0
Nonrespondents	40	53.3

Size and Type of Swine Operation

Swine farmers from various size swine operations were included in the study. The size of the swine herd was used as an index to assess the size of the swine operation. Of the 35 questionnaires received, 32 included information regarding the size of the swine operation. TABLES II and III summarize the

responses to the question, "How many feeders, sows, and gilts do you have?" Twenty-nine of the respondents indicated they had a swine breeding herd on their farm. The size of the swine breeding herd ranged from 6-120 sows and gilts. The average swine breeding herd size was 53.6. Twenty-six of the respondents indicated they fed out hogs on their farm. The number of feeder pigs ranged from 90-800. The average number of feeders was 613.

TABLE II

SIZE OF OPERATION
(Sows and Gilts)

Number of Sows and Gilts	N	Percent of Respondents
1-20	5	17.2
21-40	6	20.8
41-60	7	24.2
61-80	5	17.2
81-100	5	17.2
101 or more	1	3.4
Total	29	100.0

$\bar{X}$ number of sows and gilts = 53.6

TABLE III

SIZE OF OPERATION
(Feeder Pigs)

Number of Feeder Pigs	N	Percent of Respondents
1-100	3	11.5
101-200	3	11.5
201-300	2	7.7
301-400	6	23.1
401-500	4	15.4
500 or more	8	30.8
Total	26	100.0

$\bar{X}$ number of feeder pigs = 613.0

Years as a Swine Farmer

Swine farmers with varying amounts of experience in swine farming were included in the study. TABLE IV summarizes the responses to the question, "How many total years have you been a swine farmer?" Eleven or 34.3% had been swine farmers 16 or more years. Seven or 21.9% had been swine farmers from one to five years. Seven or 21.9% had been swine farmers from six to ten years. Seven or 21.9% had been swine farmers from 11-15 years. The range was 1-20 years with a mean of 12.2 years.

TABLE IV

TOTAL AMOUNT OF WORK EXPERIENCE IN SWINE FARMING

Years	N	Percent of Respondents
1-5	7	21.9
6-10	7	21.9
11-15	7	21.9
16 or more	11	34.3
Total	32	100.0

$\bar{X}$ years as a swine farmer = 12.2

Preparation as a Swine Farmer

Swine farmers obtained training for their occupation from various sources. TABLE V summarizes their responses to the question, "Where did you receive your preparation for farming?" Thirty-two swine farmers or 100% indicated they received training on-the-job. Twenty-four swine farmers or 75% indicated they attended a high school program to receive training as a swine farmer. Seventeen swine farmers or 53.1% indicated they had received training as a swine farmer by attending adult education courses. Seven or 21.8% indicated they received training through a college/university program.

Duty Areas of Work Performed by the Swine Farmer

The 287 tasks were grouped under 15 duty areas. Each respondent indicated whether he performed the specific task in his

TABLE V

SOURCE OF TRAINING RECEIVED AS A SWINE FARMER

Source	N	Percent of All Farmers In The Survey
On-The-Job	32	100.0
High School Program	24	75.0
Technical School Program	1	3.0
College/University Program	7	21.8
Adult Education Program	17	53.1
Other	1	3.0

current position as a swine farmer. The percentages of respondents performing each task were averaged for all tasks under each duty area. The mean percentage of incumbents who performed specific tasks in specified duty areas is presented in TABLE VI.

Duty areas of work in which 50% or more of the incumbent workers performed the tasks were:

1. Observing Legal Practices in Swine Operations
2. Following General Safety Precautions
3. Maintaining Swine Operations Equipment and Vehicles
4. Using and Maintaining Hand and Power Tools
5. Operating Equipment and Vehicles
6. Assembling and Installing Swine Operations Equipment
7. Maintaining Hog Herd Health
8. Formulating Feeds and Feeding Hogs
9. Constructing and Maintaining Swine Operation Buildings and Structures
10. Marketing and Shipping Hogs
11. Selecting Breeding and Feeder Stock
12. Breeding Sows and Gilts
13. Handling and Disposing of Animal Wastes
14. Handling and Caring for Animals

Duty Areas of Work Essential for Successful Performance as a Swine Farmer

A level of importance rating was obtained for each task. The respondent could rate the task as essential, useful, or not important for successful performance as a swine farmer. A ranking of essential was assigned a numerical rating of "3", useful a

numerical rating of "2", and not important a numerical rating of "1". The level of importance ratings for each task were averaged for all tasks under each duty area. The average level of importance ratings for the specific tasks in the specified duty areas are presented in TABLE VI.

Duty areas of work which received a 2.0 or higher level of importance rating by incumbent workers were:

1. Observing Legal Practices in Swine Operations
2. Following General Safety Precautions
3. Maintaining Swine Operations Equipment and Vehicles
4. Using and Maintaining Hand and Power Tools
5. Operating Equipment and Vehicles
6. Assembling and Installing Swine Operations Equipment
7. Maintaining Hog Herd Health
8. Formulating Feeds and Feeding Hogs
9. Constructing and Maintaining Swine Operation Buildings and Structures
10. Marketing and Shipping Hogs
11. Selecting Breeding and Feeder Stock
12. Breeding Sows and Gilts
13. Handling and Disposing of Animal Wastes
14. Handling and Caring for Animals

Percentage Performance and Level of Importance Ratings of Specific Tasks

The percentage performance by incumbent workers and the level of importance for each specific task is also presented in TABLE VI.

It is recommended that the results for each specific task be examined by educators and others who are developing educational programs to determine curriculum content for preparing swine farmers. Specific tasks with a high level of performance and a high level of importance rating should be given more emphasis in the educational program than specific tasks with a low level of performance and a low level of importance rating.

TABLE VI

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE* OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Observing Legal Practices in Swine Operations		
Follow laws relating to chemical use	96	2.8
Interpret feed additive withdrawal laws and regulations	93	2.8
Interpret feed additive mixing regulations	90	2.5
Identify shipping regulations for hogs	35	2.0
Identify EPA regulations which apply to swine operations	32	2.0
Mean Rating	69.2	2.4
Following General Safety Precautions		
Follow safe work habits	96	2.7
Identify potential safety hazards	83	2.7
Store chemicals	77	2.2
Use fire extinguishers	48	2.3
Wear appropriate protective clothing	58	2.1
Ventilate work areas	51	2.1
Interpret information on labels and signs	87	2.6
Use proper lifting and carrying methods	61	2.2
Store inflammable materials	70	2.3
Wear appropriate work clothes	90	2.3
Adjust safety devices	77	2.6
Install safety devices	45	2.2
Determine when climatic conditions provide unsafe work situations	48	2.1
Correct potential safety hazards	70	2.7
Remove debris from work areas	77	2.6
Use electrical connectors and safety devices	77	2.7
Dispose of excess chemicals	70	2.5
Mean Rating	69.7	2.4
Maintaining Swine Operations Equipment and Vehicles		
Add coolant to cooling systems	90	2.5
Add oil to equipment	100	2.9

*Average rating of importance may range from 1-3 with 3 being the highest

TABLE VI (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Adjust carburetors	54	2.2
Adjust clutch pedal free travel	67	2.4
Bleed diesel fuel system	67	2.3
Change oil and oil filters	97	2.7
Change thermostats	54	2.1
Clean debris from equipment	93	2.4
Grease equipment	96	2.8
Inflate tires	96	2.7
Inspect cooling system for leaks	90	2.5
Install and adjust belts	90	2.6
Install and adjust chains	93	2.6
Install and service battery	93	2.4
Interpret maintenance directions in operator's manuals	90	2.7
Remove equipment from storage	71	2.3
Repack bearings	90	2.3
Replace and adjust spark plugs	90	2.3
Replace bearings and seals	87	2.6
Replace diesel fuel nozzles	37	1.9
Replace spark plug wires	62	2.3
Replace radiator hoses	81	2.4
Replace universal joints	62	2.3
Service air cleaners	90	2.7
Service fuel strainer, fuel filters, and sediment bowl on fuel systems	90	2.6
Time engines	37	1.9
Prepare equipment for storage	84	2.4
Install carburetor repair kit	34	1.8
Mean Rating	78.0	2.4
Using and Maintaining Hand and Power Tools		
Adjust tools	93	2.5
Clean tools	90	2.5
Identify tools	87	2.6
Interpret tool operation instructions	87	2.6
Recondition tools	56	2.1
Select tools for specific jobs	78	2.3
Sharpen tools	75	2.3
Store tools	84	2.4

TABLE VI (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Use hand tools safely.	87	2.7
Use power tools safely	93	2.7
Set-up tools	65	2.3
Mean Rating.	81.4	2.5
Operating Equipment and Vehicles		
Interpret gauge readings on equipment.	93	2.9
Operate equipment and vehicles on public highways.	90	2.8
Add wheel and front end weights.	96	2.7
Adjust equipment safety shields.	93	2.8
Connect front end operated equipment	75	2.3
Connect hydraulic systems and hydraulic operated equipment	96	2.8
Correct equipment safety hazards	78	2.5
Connect 3-point hitch equipment.	96	2.6
Hitch towed equipment.	87	2.5
Identify equipment safety hazards.	84	2.5
Install safety shields	81	2.7
Interpret hand operating signals	78	2.4
Interpret safety instructions in operator's manuals.	78	2.6
Interpret safety symbols on equipment.	87	2.5
Operate equipment under field conditions	96	2.8
Refuel power units	96	2.9
Use appropriate power equipment for specific purposes.	90	2.8
Mean Rating.	87.9	2.7
Assembling and Installing Swine Operations Equipment		
Adjust belts	87	2.6
Adjust chains.	96	2.8
Adjust controls on equipment	96	2.7
Check for missing equipment parts or hardware.	84	2.6
Follow written assembly instructions	84	2.5
Identify hardware.	75	2.3
Inspect equipment for operating defects.	81	2.6
Install equipment in appropriate places.	87	2.6
Interpret assembly diagrams.	78	2.5
Interpret assembly instructions.	81	2.5

TABLE VI (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Use proper equipment and tools to assemble and install equipment	87	2.4
Adjust safety shields.	81	2.5
Mean Rating.	84.8	2.6
Maintaining Hog Herd Health		
Evaluate influence animal health has on production	90	2.8
Identify common livestock internal and external parasites.	81	2.8
Identify sanitation problems which may affect herd health.	93	2.8
Identify symptoms of nutritional imbalance	81	2.6
Select materials to control internal and external parasites.	93	2.8
Work with veterinarians in developing herd health program.	71	2.6
Disinfect buildings and equipment.	81	2.7
Select proper chemicals to clean buildings and equipment	86	2.5
Use insecticide repellents in buildings.	83	2.5
Apply insecticides to hogs to control external parasites	93	2.7
Identify symptoms of common hog diseases	87	2.8
Identify symptoms of major hog parasites	84	2.7
Evaluate life cycles of parasites to determine control procedures.	56	2.3
Calculate cost of treatments	62	2.3
Supply medication through feed and water	87	2.7
Isolate animals with transmissible diseases.	75	2.7
Select appropriate method to control diseases.	81	2.8
Worm animals	96	3.0
Vaccinate animals.	81	2.7
Determine amount of medication or materials needed in specific situations	93	2.8
Interpret labels on medication and insecticide containers.	93	2.9
Give intramuscular injections.	90	2.9
Determine when to rotate hog pastures to control diseases and parasites	50	2.2
Observe new animals for symptoms of diseases and parasites	81	2.7
Determine when the veterinarian should be called	87	2.9
Apply medication to cuts and bruises	78	2.6
Identify and isolate injured animals	84	2.6
Mean Rating.	82.1	2.7

TABLE VI (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Formulating Feeds and Feeding Hogs		
Develop rations.	87	2.7
Calculate cost of rations and feed mixtures.	75	2.6
Calculate feed efficiency.	65	2.6
Classify feeds	59	2.2
Determine amount of feed additives to add to mixtures.	84	2.8
Determine amount to feed per animal.	84	2.5
Determine appropriate form for preparing feed.	59	2
Substitute for various feedstuffs in rations	43	2.
Determine nutrient level requirements for animals.	62	2.
Determine purpose of various classes of feedstuffs in rations and mixtures.	46	2.3
Determine why various nutrients are needed in rations and mixtures.	50	2.4
Determine relative nutritive value of feedstuffs	62	2.4
Determine total amount of feed needed for herds.	81	2.5
Determine water requirements for animals	71	2.3
Determine when feed additives should be withdrawn from animals	87	2.9
Determine when rations and mixtures should be changed.	87	2.2
Determine which feeds and additives may be included in animal feed mixtures.	81	2.6
Determine which feedstuffs and amount of feedstuffs which may be substituted in rations.	56	2.4
Evaluate the influence the quality of feedstuffs has on production.	59	2.4
Evaluate how ration imbalance may affect production.	59	2.3
Evaluate influence residues in meat have on marketing problems	43	2.2
Identify factors that influence feed requirements and feed efficiency	71	2.3
Identify factors that influence the quality of feedstuffs.	59	2.3
Determine purpose of various nutrients in rations and mixtures.	59	2.3
Evaluate the influence the digestive system has on feedstuffs that may be fed	40	2.1
Interpret feed analysis reports.	62	2.3
Interpret feed tags and labels	75	2.3
Interpret feeding charts and tables.	68	2.5
Select appropriate feeding methods	78	2.5

TABLE VI (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Determine how feed palatability may be improved.	65	2.4
Work with veterinarian and feed salesman in formulating feeds and planning feeding program.	75	2.5
Identify essential nutrients needed in rations and mixtures.	59	2.4
Evaluate how feed additives influence production and efficiency.	65	2.6
Determine amount of weight animals should gain	75	2.5
Fill feed troughs, bunks, and self feeders	81	2.6
Fill and clean waterers.	87	2.7
Prepare feed mixtures.	84	2.7
Flush animals.	56	2.3
Precondition animals for shipping.	25	1.9
Evaluate influence of using pasture on feeding requirements.	53	1.9
Wean animals	81	2.0
Precondition animals for feedlot	37	2.0
Evaluate affect of various feeding practices on carcass composition and feed efficiency	56	2.4
Calculate and feed ration for hogs from 40# - 100#	78	2.5
Calculate and feed ration for feeder pigs over 100#.	78	2.5
Calculate and feed ration for breeding stock over 100#	71	2.3
Calculate and feed ration for gestating gilts.	78	2.4
Calculate and feed ration for gestating sows	81	2.4
Calculate and feed ration for boars.	71	2.3
Calculate and feed ration for show animals	34	1.8
Identify moldy or spoiled feedstuffs	87	2.8
Mean Rating.	66.5	2.4
Constructing and Maintaining Swine Operation Buildings and Structures		
Apply wood and metal preservatives	68	2.3
Clean and oil electric motors on structures.	81	2.4
Build and remove concrete forms.	71	2.2
Determine cost of repairs.	86	2.6
Develop bill of materials needed for repairs	89	2.4
Repair and hang gates and doors.	87	2.6
Install electrical motors.	71	2.2
Lay blocks	25	1.8

TABLE VI (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Mix, pour, finish, and cure concrete	62	2.0
Read and interpret blueprints	56	2.1
Install and repair bracing in buildings	75	2.1
Repair electrical cords and wires	87	2.4
Repair minor leaks in roof of buildings	97	2.5
Replace belts and pulleys	100	2.5
Reset circuit breakers	95	2.7
Replace electrical switches	95	2.6
Replace fuses	100	2.7
Replace lighting fixtures	90	2.6
Replace valves in water system	87	2.6
Repair faucets	78	2.4
Replace water pipe	84	2.4
Replace window panes	78	2.3
Wire simple electrical circuit	81	2.4
Construct and repair fences and gates	90	2.7
Repair wood siding on buildings and structures	87	2.3
Repair metal structures with arc or oxyacetylene welder	77	2.6
Mean Rating	80.7	2.4
Marketing and Shipping Hogs		
Calculate expected returns and profits on sales	68	2.3
Classify animals for market purposes	68	2.5
Determine feasibility of participating in futures market	43	1.9
Evaluate influence of market grade on returns	40	2.1
Load animals	93	2.7
Prepare carriers for hauling animals	71	2.3
Select markets	78	2.4
Prepare advertising announcements for selling animals	18	1.6
Interpret market reports	78	2.4
Analyze market cycles	62	2.3
Select appropriate marketing system	83	2.6
Select truckers	28	1.7
Identify characteristics of USDA grades	43	2.0
Determine affect middlemen and retailers have on producers' prices	66	2.3
Determine whether animals should be held over for another year's income	68	2.3

TABLE VI (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Determine most economical weights to market.	93	2.6
Calculate shrinkage.	34	1.9
Calculate dressing percent	18	1.7
Estimate market grades	40	2.0
Develop plan to spread marketing throughout year	65	2.2
Determine the affect meat substitutes have on prices and demands	65	2.2
Take pictures of animals for advertising announcements	25	1.8
Sort animals according to size and weight.	84	2.4
Determine when animals are ready to market	93	2.8
Determine number of animals to load.	84	2.5
Consign outstanding individuals at sales	31	1.8
Mean Rating.	59.2	2.2
Selecting Breeding and Feeder Stock		
Calculate percentage and value of lean and prime cuts found in animals.	43	2.1
Determine age of animals	81	2.5
Establish production goals for culling purposes.	75	2.4
Evaluate advantages of various breeds.	68	2.4
Evaluate general condition of animals.	78	2.5
Evaluate influence of consumers' demands on type of animal to select	71	2.4
Evaluate overall performance and health records of animals	78	2.4
Evaluate the degree various traits and characteristics are inherited	68	2.3
Identify major retail cuts of animals.	62	2.0
Identify parts of animals.	71	2.1
Identify reputable sources for obtaining stock	81	2.6
Inspect animals for defects.	87	2.7
Inspect animals for desirable traits and characteristics	81	2.6
Select breeding system to follow	75	2.5
Select feeder animals.	46	2.[illegible]
Select foundation stock.	68	2.6
Take back fat probe.	12	1.8
Test boar for sterility.	12	2.0
Identify breeds.	81	2.5
Mean Rating.	65.2	2.3

TABLE VI (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Breeding Sows and Gilts		
Determine due date for animals	84	2.7
Determine number of boars needed for sow herd	87	2.8
Determine when to breed	87	2.7
Identify various causes of breeding difficulty	71	2.5
Select a breeding method	75	2.4
Pregnancy test animals	15	1.7
Mean Rating	69.8	2.5
Fitting and Showing Swine		
Fit animals	31	1.9
Register animals for show	25	1.8
Show animals	34	1.8
Mean Rating	30.0	1.8
Handling and Disposing of Animal Wastes		
Evaluate how animal wastes decay	40	2.1
Prevent waste runoff from feedlots and housing quarters	59	2.4
Remove dead animals	93	2.9
Remove manure from quarters and pens	93	2.8
Spread manure on fields	90	2.7
Mean Rating	75.0	2.6
Handling and Caring for Animals		
Assist animals in delivering young	84	2.6
Castrate animals	87	2.6
Check animals' milk supply	87	2.7
Clean newborn animals	71	2.3
Determine space needed for animals	93	2.8
Disinfect and clip naval cord	50	2.1
Evaluate influence of stress on growth and condition of animals	71	2.4
Exercise animals	59	1.9

TABLE VI (Cont.)

PERCENTAGE PERFORMANCE AND AVERAGE RATING OF IMPORTANCE OF SPECIFIC TASKS

TASK STATEMENTS	Percent Performing	Average Level of Importance
Help young to nurse.	68	2.3
Identify signs of approaching birth.	87	2.7
Identify due dates for animals	84	2.7
Isolate newly purchased animals for observation.	87	2.6
Mark animals for identification.	59	2.3
Move brood sows to farrowing quarters.	87	2.7
Move pigs to smaller litters	81	2.6
Move feeder animals into proper feedlots	84	2.5
Observe animals regularly.	87	2.8
Pen animals according to size, weight, and sex	68	2.3
Remove afterbirth.	81	2.4
Remove non-compatible animals.	71	2.4
Trim feet.	15	1.6
Weigh animals.	50	1.8
Clip needle teeth.	71	2.3
Cut tails on feeder pigs	56	2.2
Give iron shots.	81	2.6
Check underlines on sows	81	2.6
De-tusk boars.	43	2.0
Regulate temperature and air flow in farrowing quarters.	90	2.7
Place pigs in brooder or use heat lamps.	84	2.6
Wash sows and gilts before moving to farrowing quarters.	25	1.8
Paint sow's underline with iron compound	3	1.4
Ring animals	59	2.0
Bed animals.	84	2.6
Prevent animals from stampeding.	46	1.9
Mean Rating.	68.6	2.3